Behavioral Health of Combat Veterans

NAVY AND MARINE CORPS COMBAT & OPERATIONAL STRESS CONFERENCE 2010:

"TAKING ACTION, MEASURING RESULTS"

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Behavioral Health of Combat Veterans (BHCV) Contributors

Stephanie McWhorter, M.A.

Shiloh E. Beckerley, M.A.

Ryan S. Darby, M.A.

Jennifer McAnany, B.S.

LCDR Katharine Shobe, Ph.D.

Cynthia J. Thomsen, Ph.D.

Gerald E. Larson, Ph.D.

BHCV Project:

- Funded by BuMED through the Wounded, Ill, and Injured (WII) and Psychological Health/Traumatic Brain Injury (PH/TBI) programs.
- Housed at the Naval Health Research Center (NHRC), San Diego, CA.

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BHCV's Unique Capabilities

1. Data relevant to behavioral health concerns exist, but in many cases have not been thoroughly analyzed. Using existing data sources will reduce the survey burden of military personnel.

2. New analyses of existing data sets, individually or in combination, can shed light on:
   - Risk and protective factors for specific outcomes;
   - Whether particular subpopulations are differentially at risk;
   - Whether different factors predict outcomes across subpopulations.

BHCV Objectives

1. Create a comprehensive electronic library of existing databases.
2. Using existing databases (individually or in combination), conduct original statistical analyses.
3. Prepare Behavioral Health Quarterly (BHQ) reports.

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BHCV Objective 1

Create a comprehensive electronic library of existing databases:

- Identify relevant restricted-use and public-use data sources;
- Establish data-sharing agreements with external ownership agencies;
- Obtain IRB approval and follow approved protocols for each data resource.

Objective 1: Databases Procured to Date

Public-use data, including data from:

- Service Safety Centers
- Medical Surveillance Monthly Reports
- Bureau of Justice Statistics
- Bureau of Labor Statistics
- Current Population Survey
- US Census Bureau
- Naval Postgraduate School

Databases Procured to Date, cont.

Status of Forces Surveys from DMDC:

- Active-Duty Members
- Reserve Component Members
- Spouses of Active-Duty Members
- Spouses of Reserve Component Members
- Workplace and Gender Relations
- Workplace and Equal Opportunity

Databases Procured to Date, cont.

- 2008 DoD Survey of Health Related Behaviors (HRB) among Active-Duty Military Personnel
- Career History Archival Medical and Personnel System (CHAMPS)
- Military Deployment Records
- Veterans Mortality Data, including:
  1. CA and FL state death certificate data
  2. National Center for Health Statistics (NCHS) multiple cause of death files

BHCV Objective 2

Using existing databases (individually or in combination), conduct original statistical analyses to:

- Examine effects of combat deployment on current service members, veterans, and their families;
- Focus on potentially sensitive outcomes.

BHCV Objective 3

Prepare Behavioral Health Quarterly (BHQ) reports:

- Review relevant research, with particular emphasis on OIF/OEF-era findings;
- Present results of new analyses of existing datasets, conducted by BHCV;
- Provide summaries of findings to date, their implications for policy

Objective 3: BHQ Reports

To Date:

- Vol. 1, No. 1, "National Guard/Reserves: Weekend Warriors No More"
- Vol. 1, No. 2 & 3, "Women at War: A New Generation of Citizen-Soldiers"

Upcoming reports may focus on:

Junior enlisted
NCOs
Spouses and children
Mortality

BHCV Original Analyses

Sample results from the current BHQ report, focusing on gender differences/female service members. Topics include:

- Military satisfaction and performance
- Mental health
- Injuries
- Aggressive behavior

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Trauma Experienced During Any Deployment:

- I was sent outside the wire on combat patrols, convoys, or sorties.
- I or members of my unit, received incoming fire from small arms, artillery, rockets, or mortars.
- I, or members of my unit, encountered mines, booby traps, or IEDs (improvised explosive devices).
- I worked with landmines or other unexploded ordinances.
- My unit fired on the enemy.
- I personally fired my weapon at the enemy.
- I engaged in hand-to-hand combat.
- I was responsible for the death or serious injury of an enemy.
- I witnessed members of my unit or an ally unit being seriously wounded or killed.
- My unit suffered casualties.
- I saw dead bodies or human remains.
- I handled, uncovered, or removed dead bodies or human remains.
- Someone I knew well was killed in combat.
- I took care of injured or dying people.
- I interacted with enemy prisoners of war.
- I witnessed or engaged in acts of cruelty, excessive force, or acts violating rules of engagement.
- I was wounded in combat.

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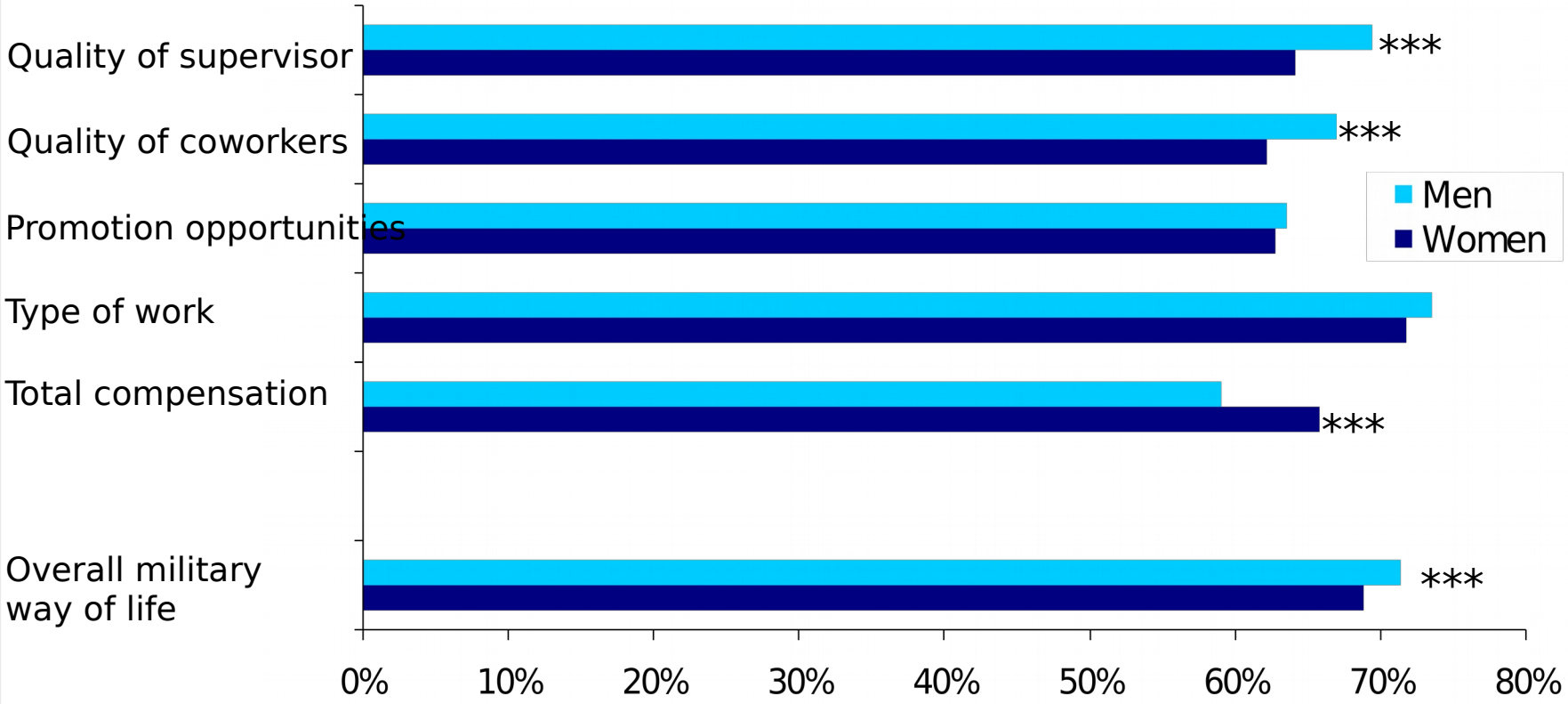
Military and Mental Health Outcomes: Associations with Gender and Deployment

Jennifer McAnany

Military outcomes examined:

- Satisfaction with military
- Military productivity
- Negative career events

Military satisfaction by gender, past 12 months

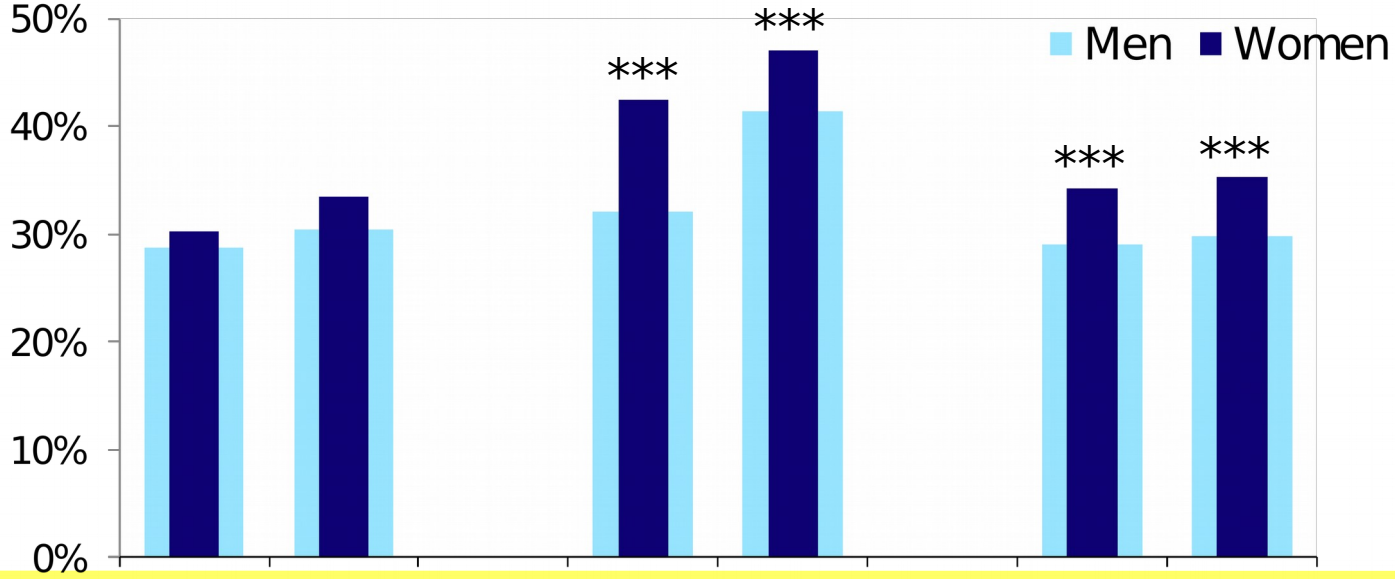


Controlled demographics: marital status, dependents, pay grade, race, service, education.

*p<.05, **p<.01, ***p<.001

BHCV, 2008 SOF/A
N=31,210

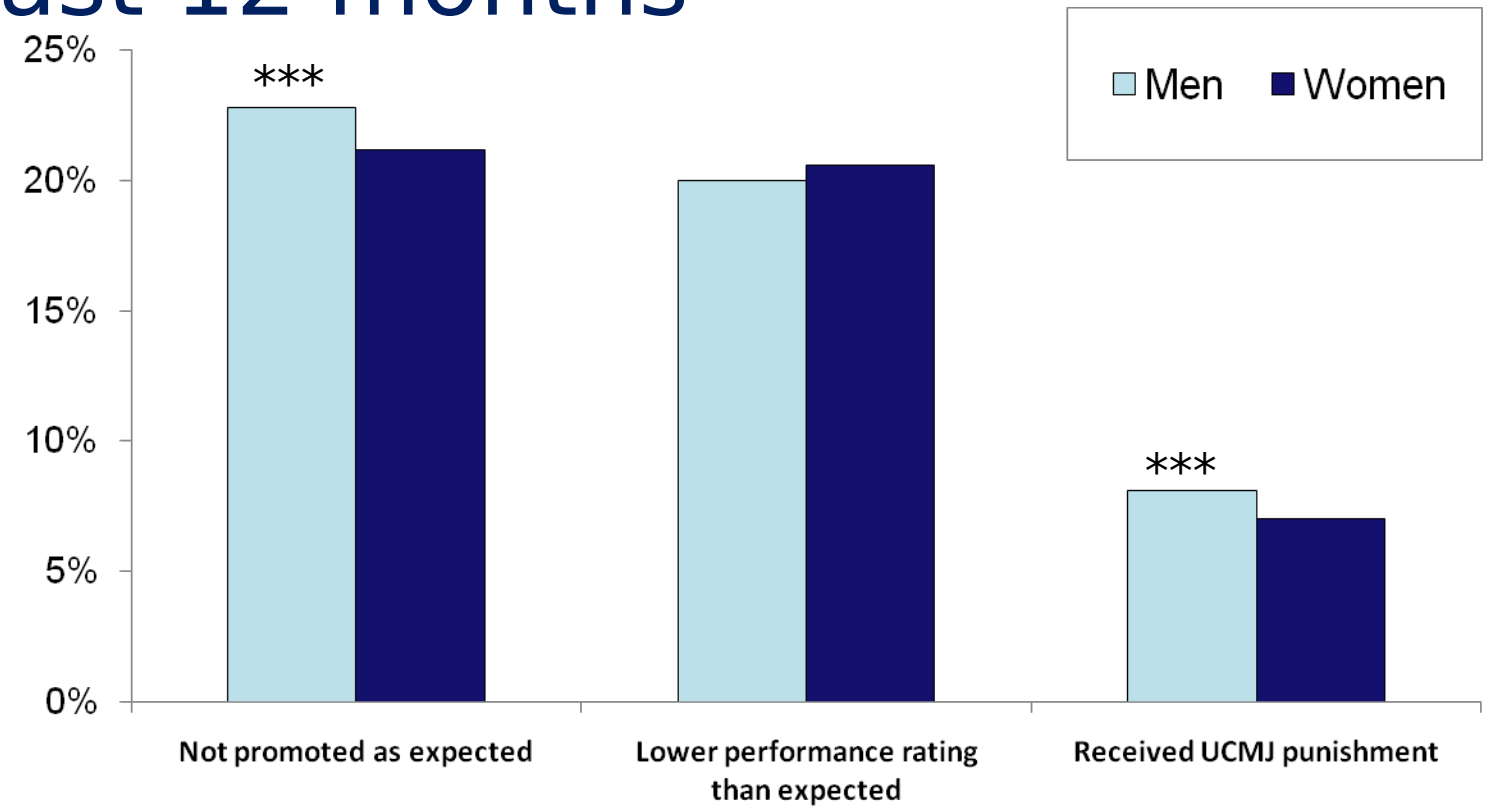
Productivity loss by gender & combat deployment, past 12 months



Controlled demographics: marital status, dependents, pay grade, race, service, education, dual military marriage. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=22,767

Negative career events by gender, past 12 months



Controlled demographics: marital status, dependents, pay grade, race, service, education, dual military marriage. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=24,123

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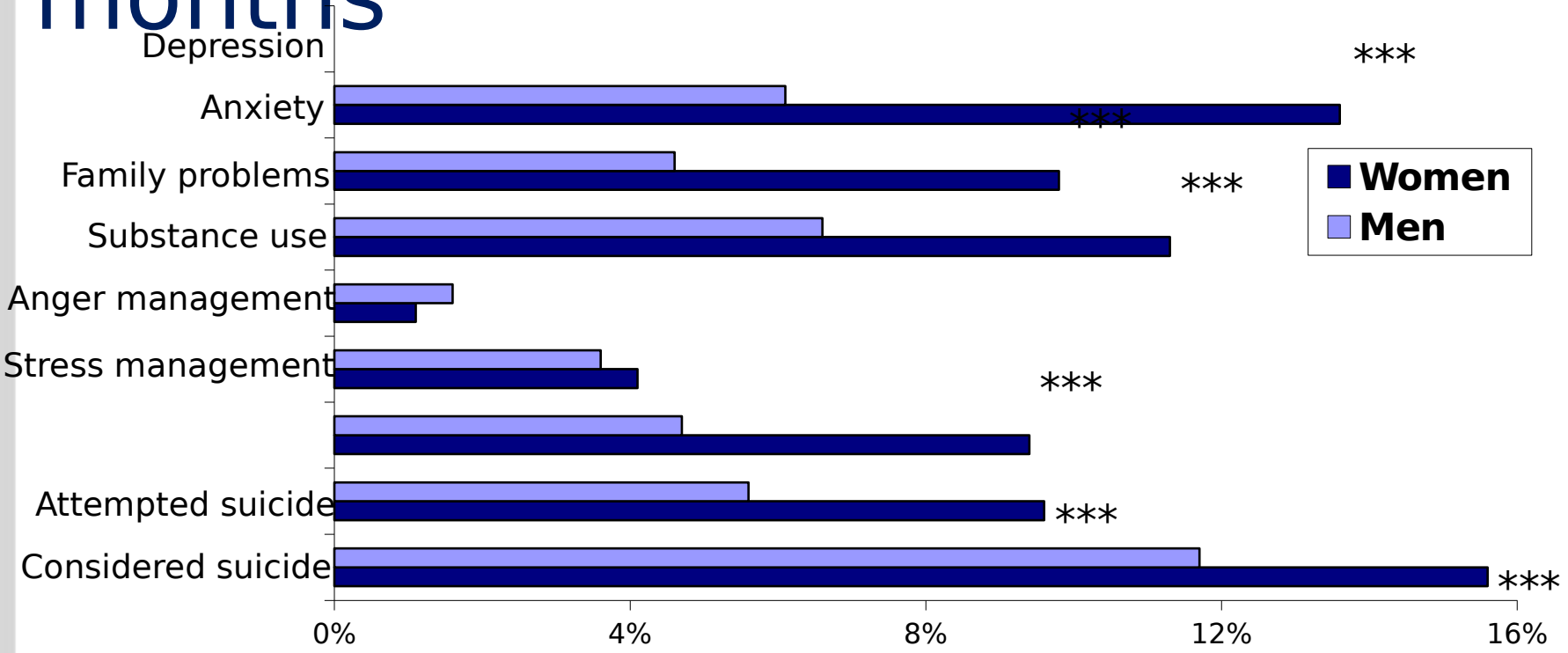
Mental health outcomes examined:

- Depression, anxiety, & distress
- Substance use
- Family problems, anger & stress management
- Suicidality

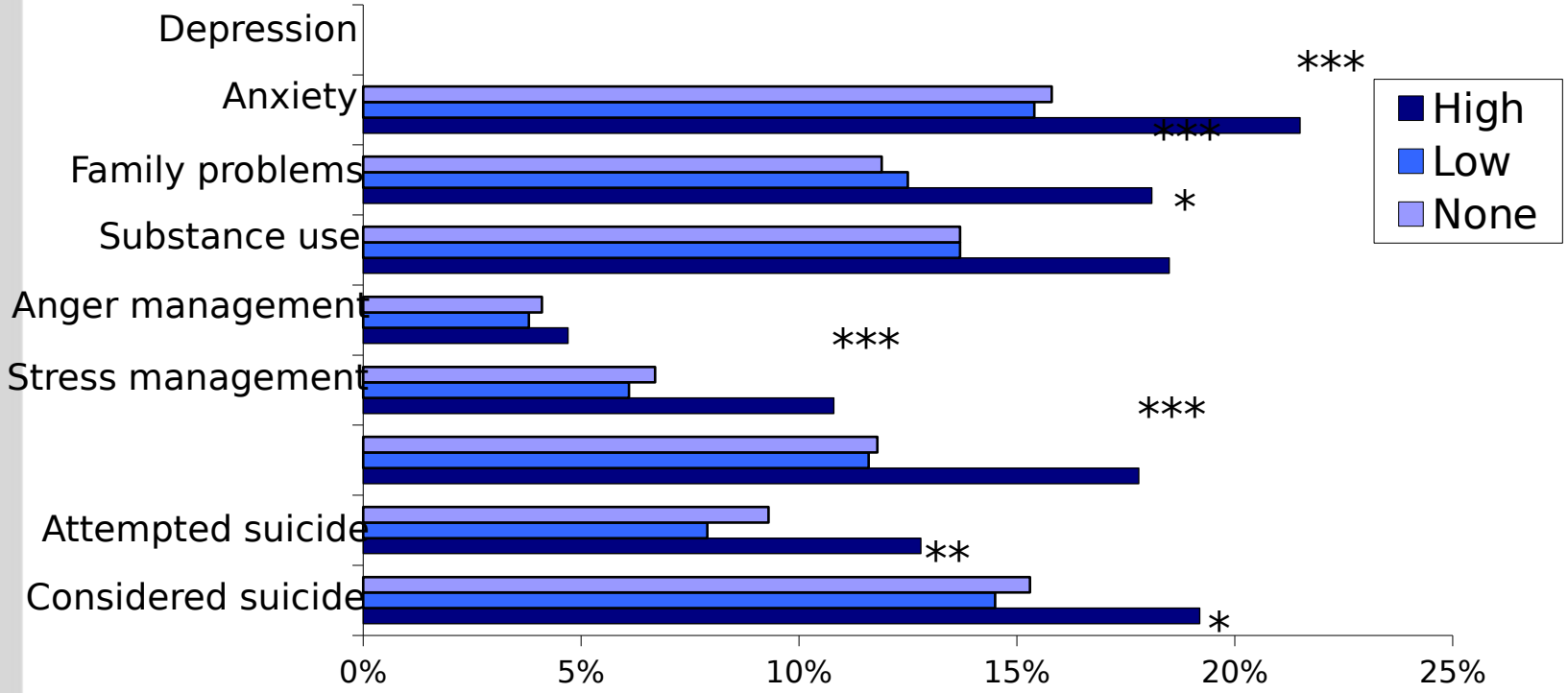
Mental health concerns of members seeking care, past 12 months



Controlled demographics: marital status, pay grade, race, service, education, dual military marriage, age. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=22,946

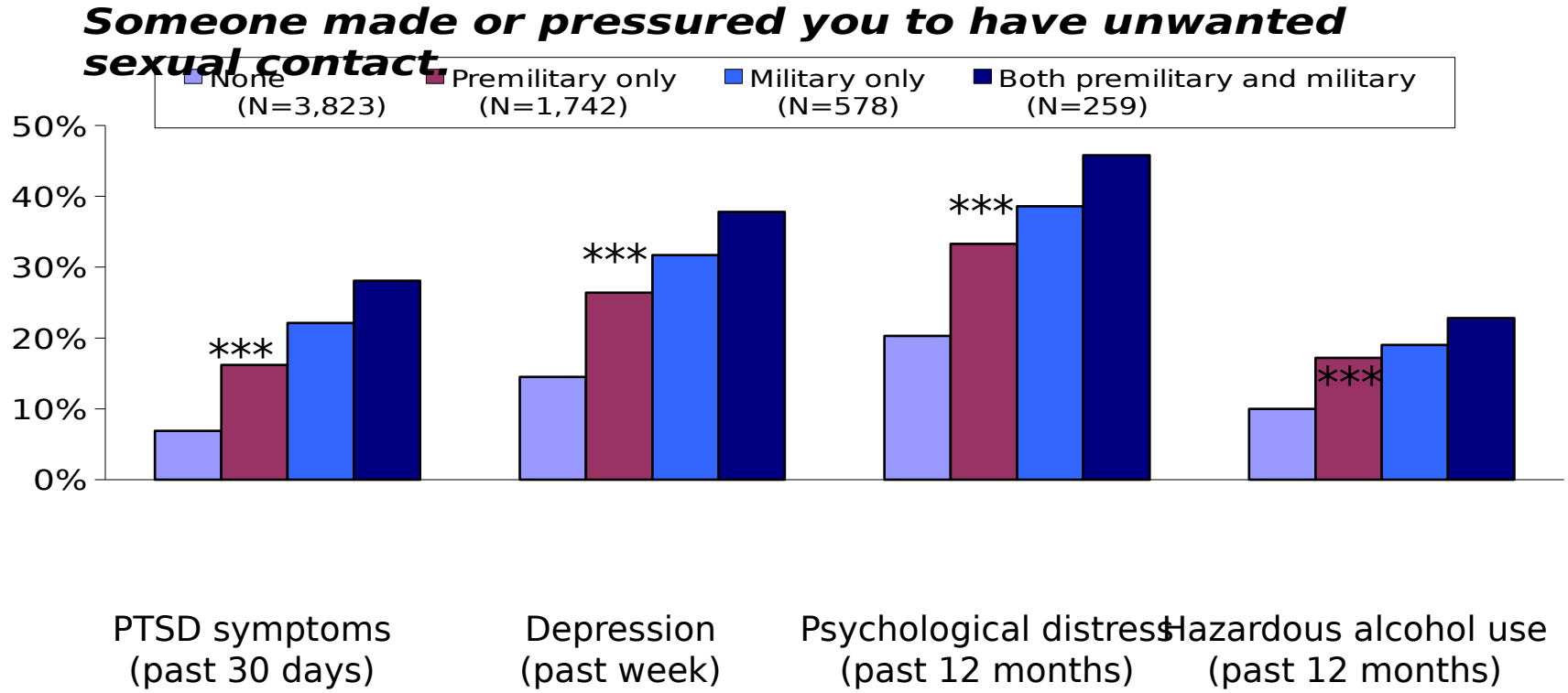
Mental health concerns of women seeking care by deployment trauma, past 12 months



Controlled demographics: marital status, pay grade, race, service, education, dual military marriage, age. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=6,107

Women's mental health issues by unwanted sexual contact



Controlled demographics: marital status, pay grade, race, service, education, dual military marriage, age. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=6,402

Conclusions

Military Life

- Women and all members who have been combat deployed are less satisfied with the military.
- Women report more lost productivity but fewer negative career events.

Mental Health

- Women seek more mental health care.
- Women with deployment trauma seek more mental health care and report more suicidal ideation/attempts.
- Women who experienced unwanted sexual contact (versus not) report more mental health

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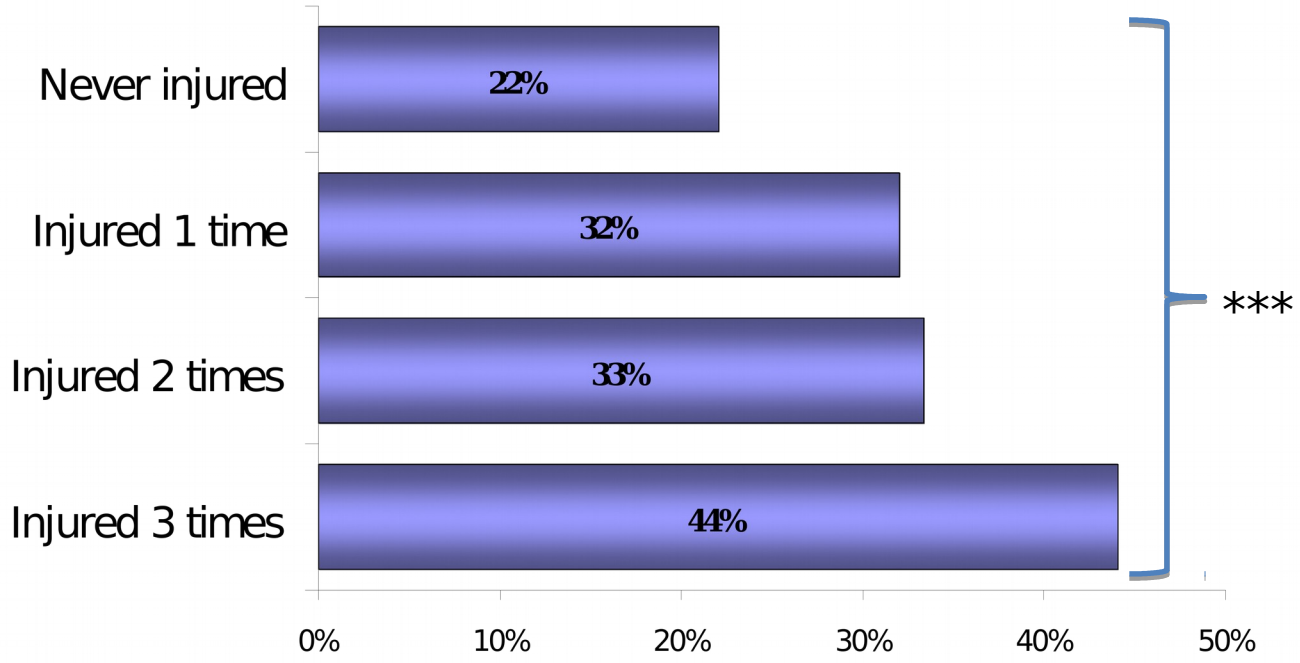
Combat Deployment and Injury among Military Women

Shiloh Elizabeth Beckerley, M.A.

Issues addressed:

- Impact of injuries on military readiness
- Injury rates by gender and service branch
- Recommendations for reducing

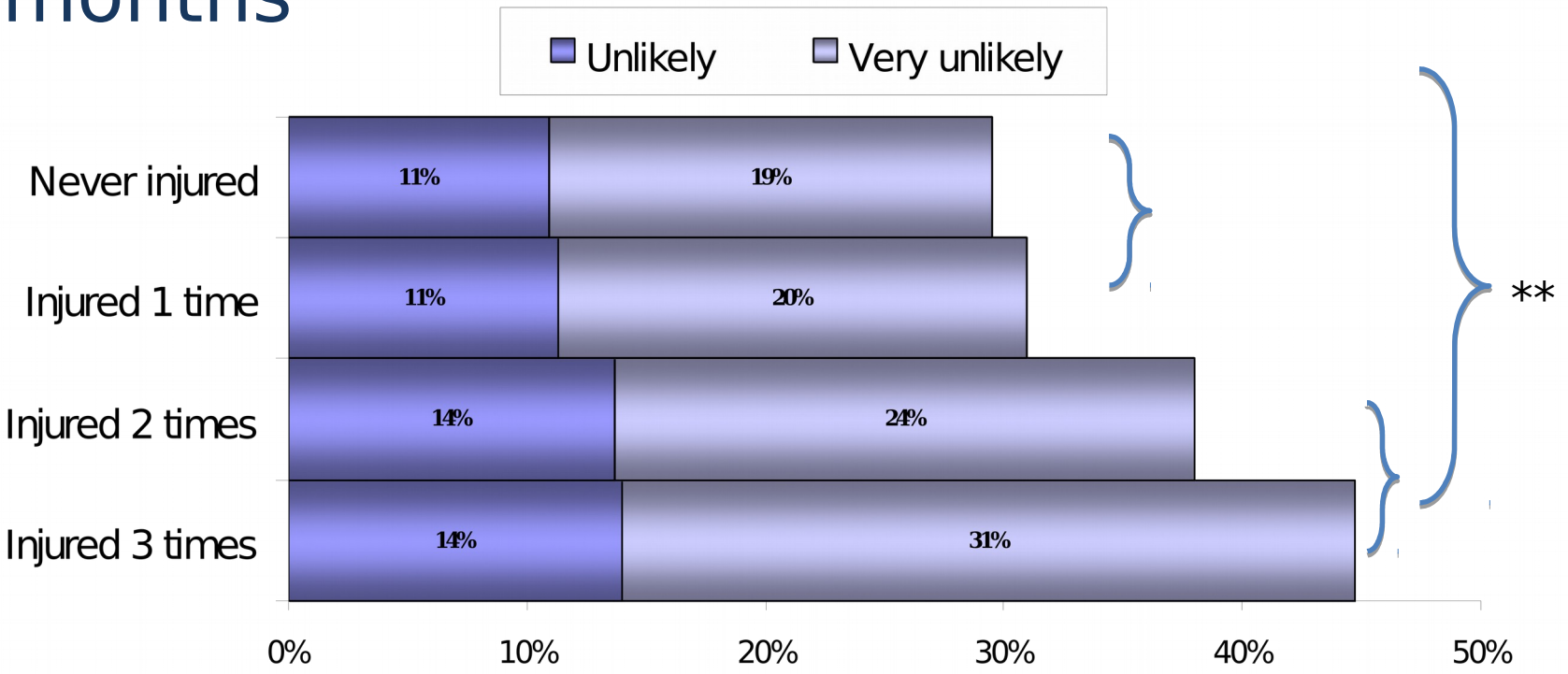
Percent of female AD members unable to deploy by self-reported injuries, past 12 months



Controlled demographics: gender***, race, rank***, service**, education, marital status, dependents***.
***p<.001, for all contrasts except contrast between the middle two categories.

BHCV, 2008
HRB N=21,096

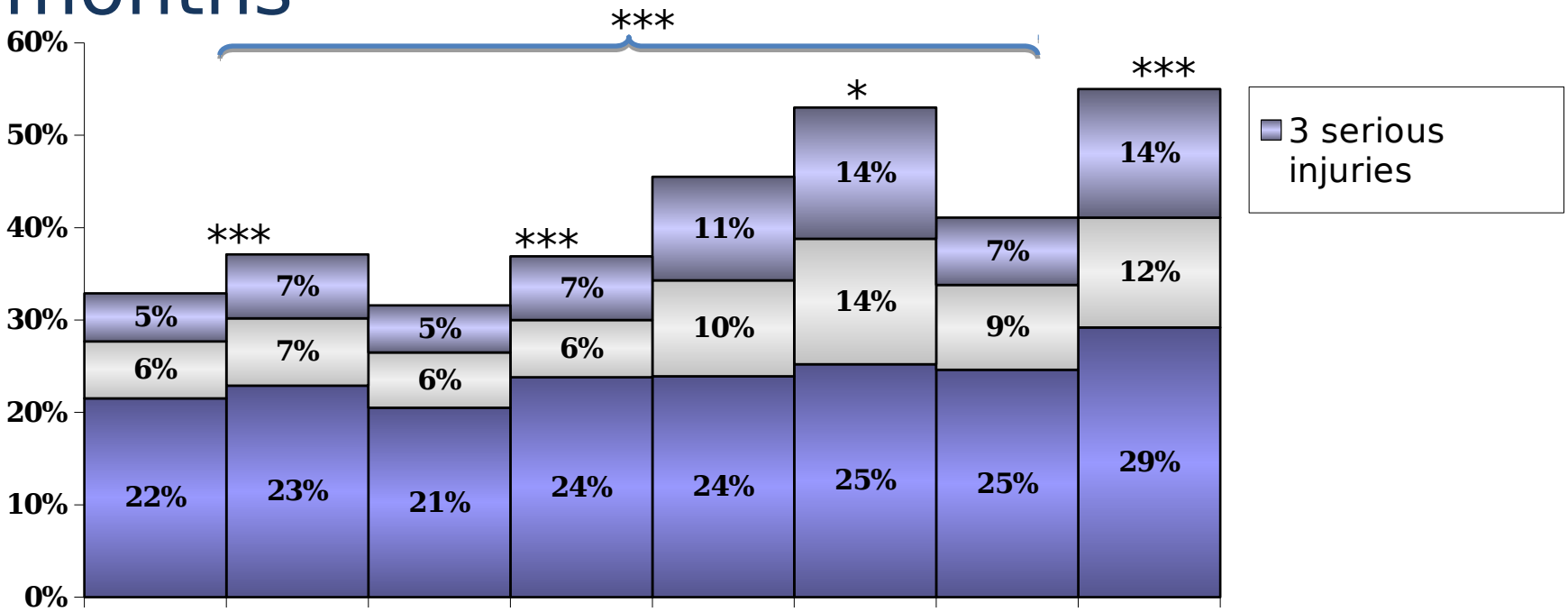
Percent of female AD members unlikely to stay on AD service by injuries, past 12 months



Controlled demographics: gender**,race***, rank***, service**, education***,
marital status***, dependents***. **$p<.01$, ***$p<.001$

BHCV, 2008
HRB N=21,096

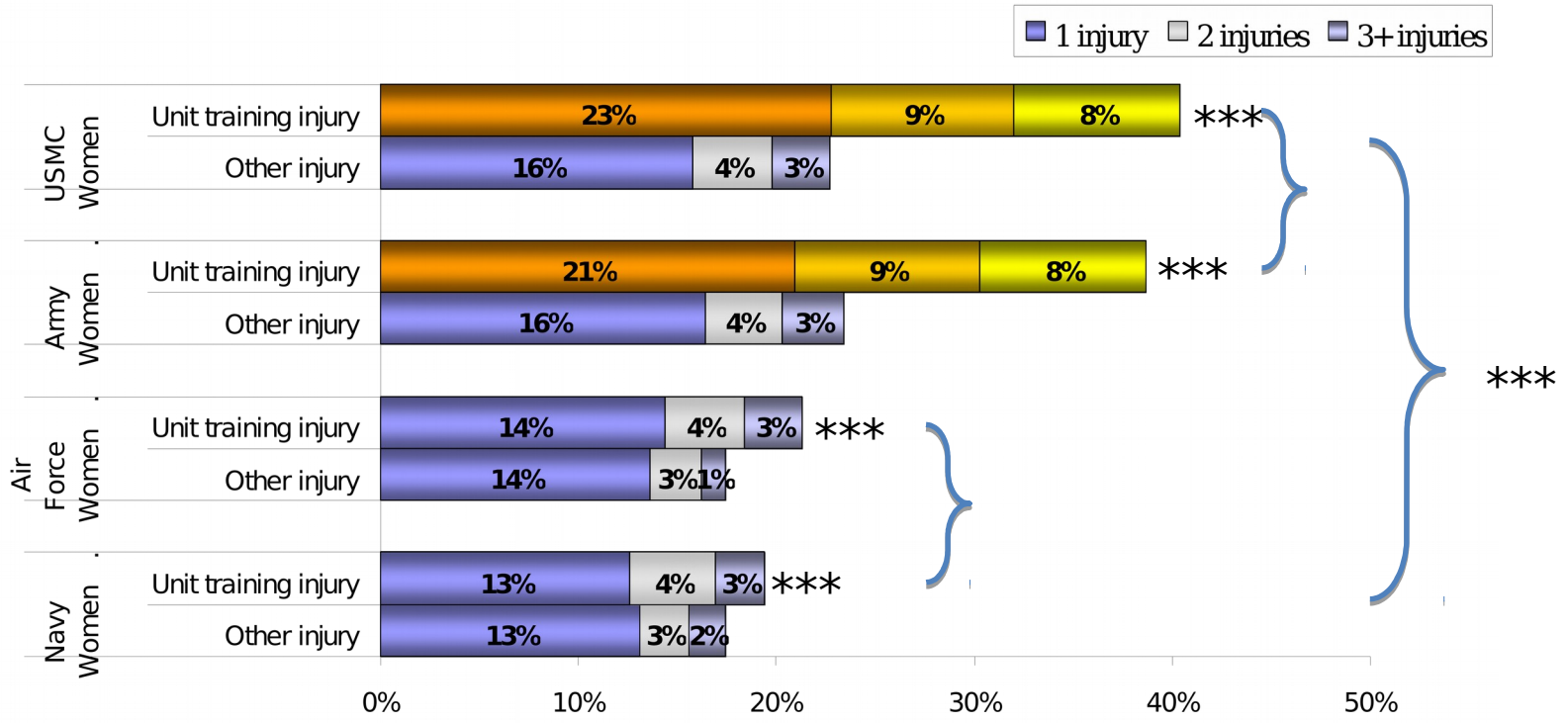
Injuries by gender & service, past 12 months



Controlled demographics: gender**,race***, rank***, service***, education***, marital status*, dependents***. *p<.05, **p<.01, ***p<.001 for all service contrasts except Navy vs. Air Force.

BHCV, 2008 HRB
N=24,690

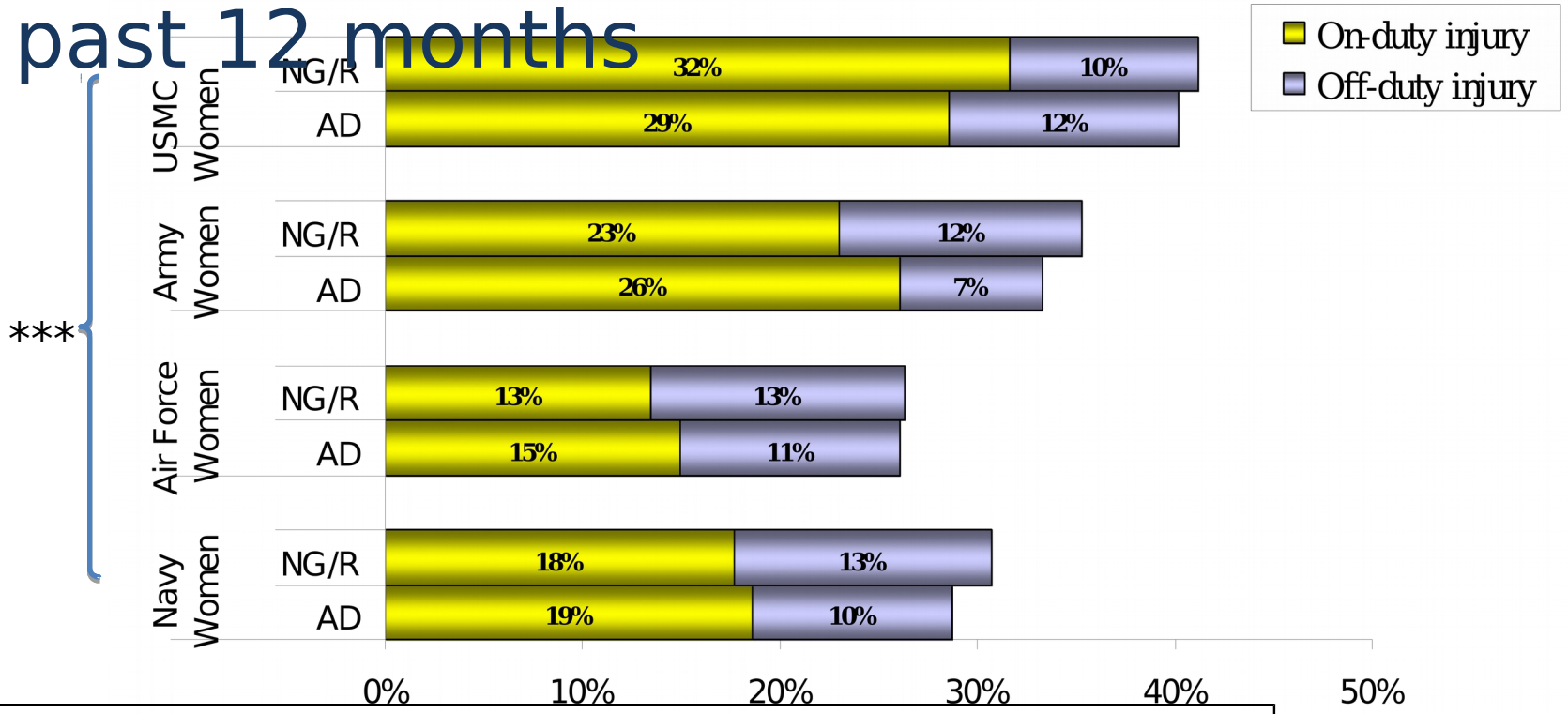
Female AD members' injuries by service & injury cause, past 12 months



Controlled demographics, other injury/unit training injury: gender -/**,race, rank**/**, service***/***, education-/**, marital status-/***, dependents. **p<.01, ***p<.001

BHCV, 2008 HRB
N=24,690

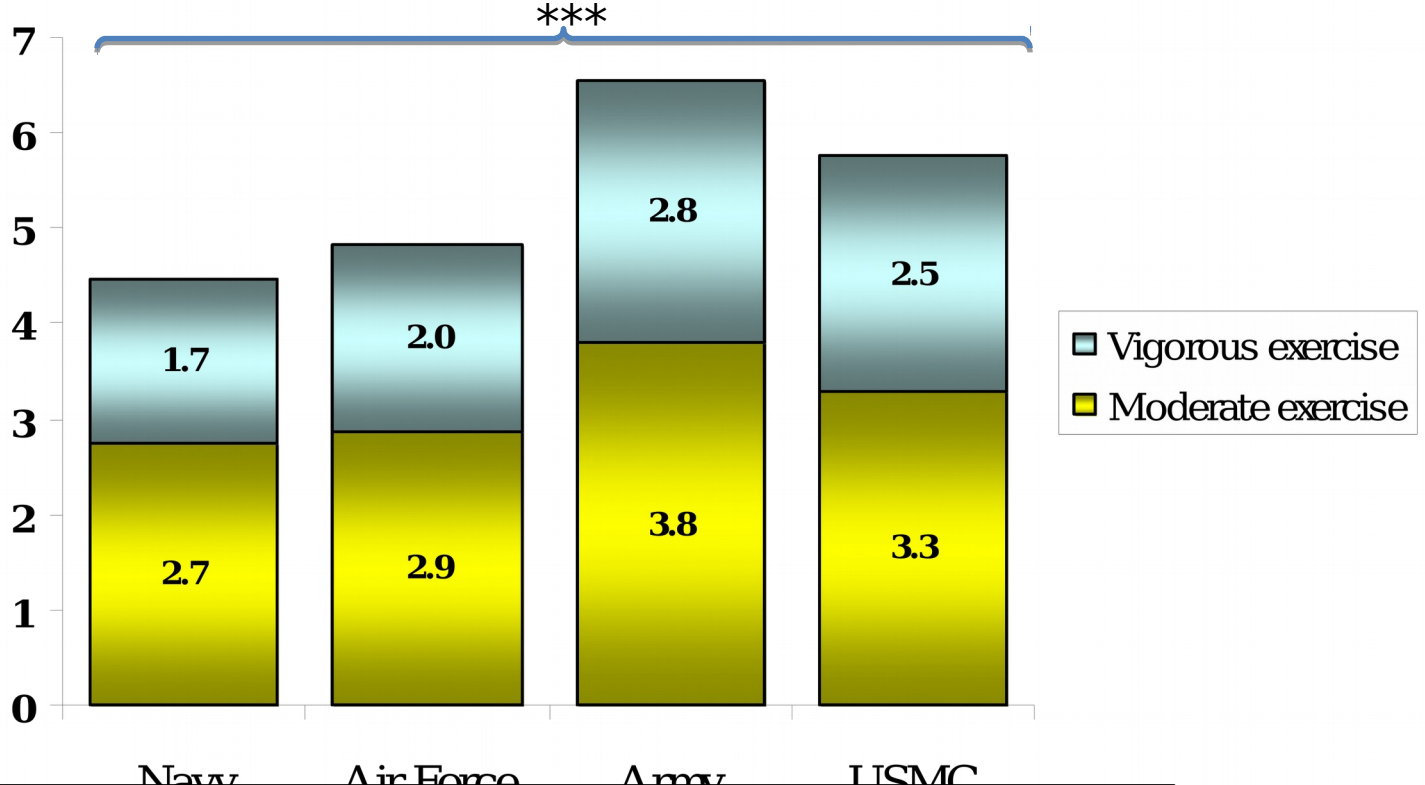
Female AD members' use of medical care by on- versus off-duty injuries, past 12 months



Controlled demographics: gender**,race***, rank***, service***, education, marital status, dependents***, component***. ****p*<.001. NG/R > AD; USMC & Army > Navy & USAF. Service contrasts in when injury occurred, all contrast significant at p<.001 except USMC vs. Army.

BHCV, 2008 SOF/A&R
N=27,265

Female AD members' average hours of exercise per week, past 12 months



Controlled demographics: gender**,race*, rank***, service**, education***, marital status***, dependents***. *p<.05, **p<.01, ***p<.001 for all service contrasts except USMC vs. Army

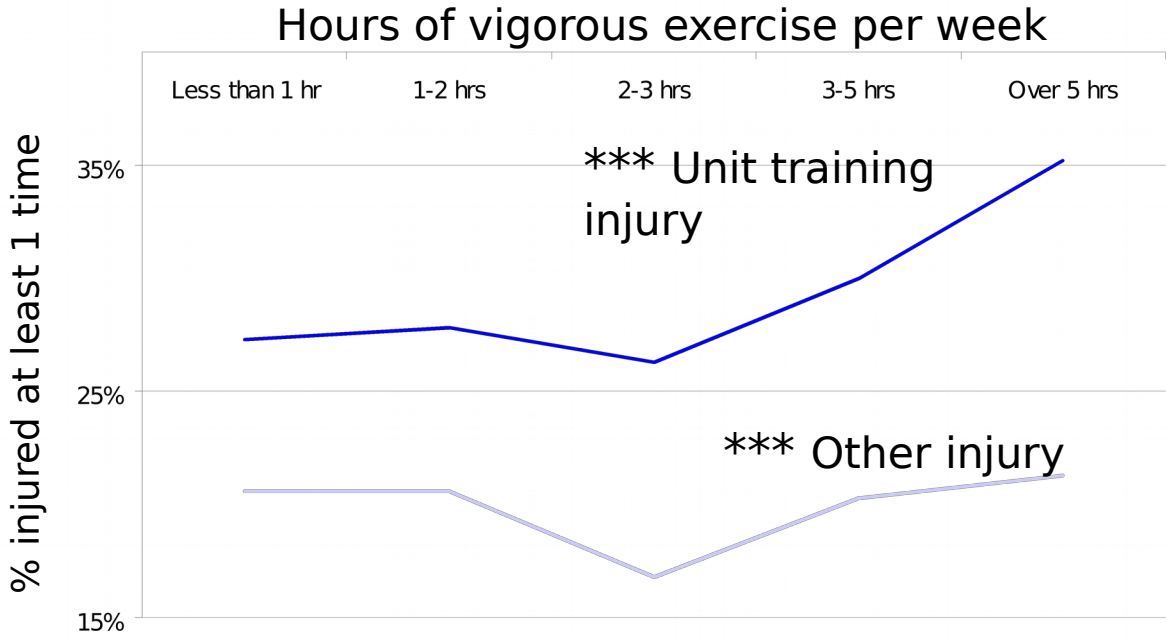
BHCV, 2008 HRB
N=24,482

Type of Injury

- Primary cause of injury: running/jogging outdoors:
  - Reported by 41% of men, 55% of women
  - Typically occurred during unit physical training
- 65% of women's injuries were to lower extremities (most commonly, knee injury).
- Majority of injuries result from overuse, typically due to volume overload.

BHCV, 2008 SDHA
N=2,393

Percent of female AD members injured 1+ times by average weekly exercise & injury cause, past 12 months



Controlled demographics (unit training/other): gender*/***,race, rank***/***, service***/***, education***/*, marital status***/-, dependents***/-. *p<.05, ***p<.001

BHCV, 2008 HRB
N=24,480

Recommendations

- Reduce high mileage running volume, particularly for those who are the least fit.
- Gradually increase running distance.
- Structure PT so that it accommodates all fitness levels, e.g., run for time rather than distance.
- Replace some distance runs with interval running.
- Allow adequate recovery time.

Gender, Deployment, and Aggressive Behavior

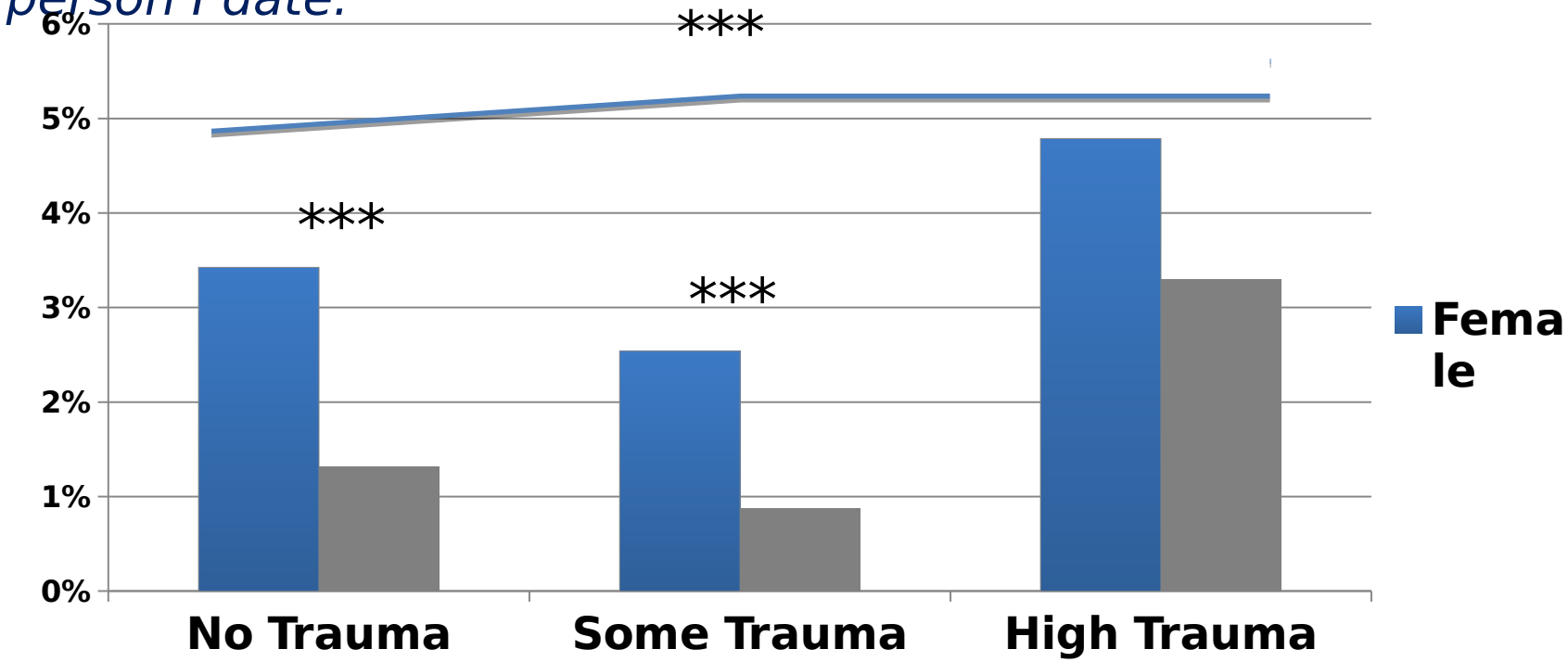
Ryan Darby, M.A.

Rates of self-reported physical aggression by

- Deployment trauma
- Gender of service member
- Target of aggression (spouse, child, other)

Deployment trauma & intimate partner violence

I hit my spouse, live-in fiancé, boyfriend or girlfriend, or the person I date.

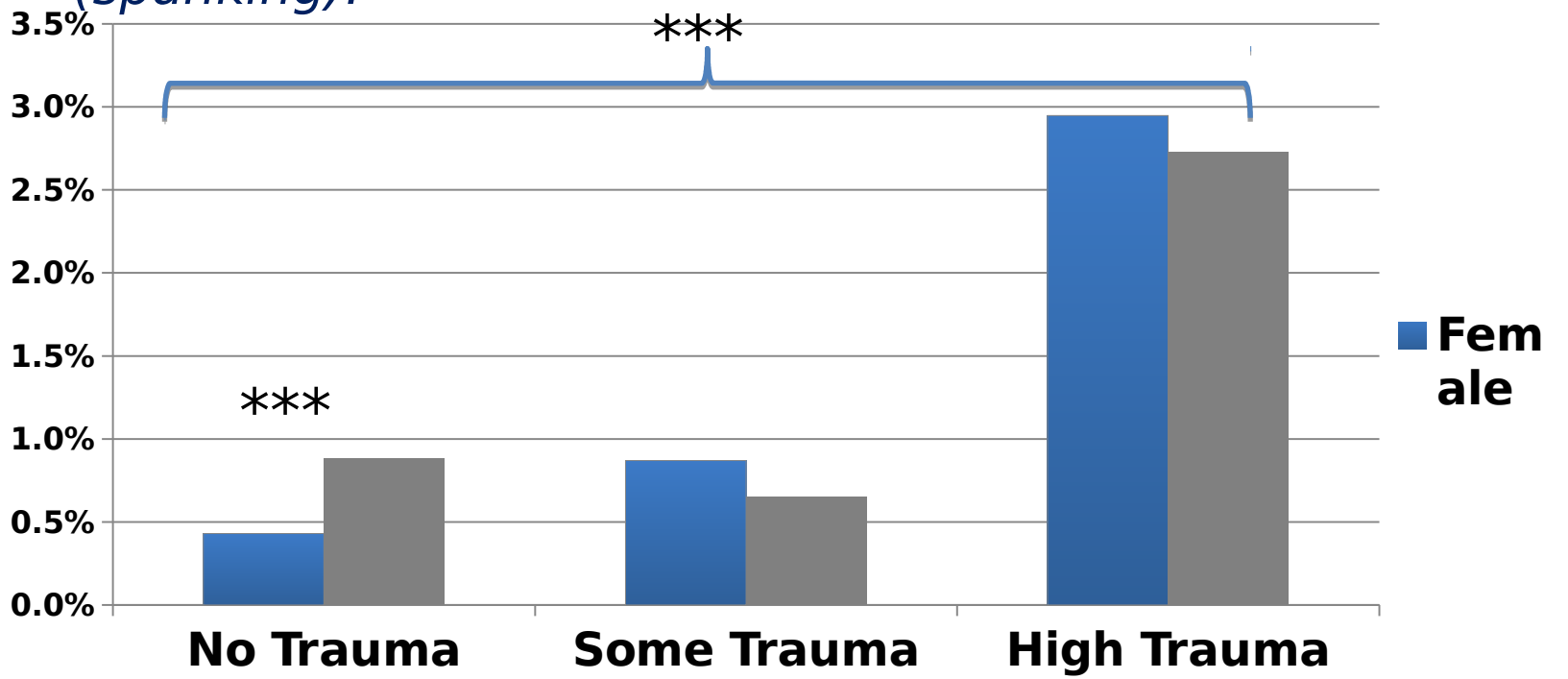


Controlled demographics: race***, rank***, service, education***, marital status, dependents. *p<.05, **p<.01, ***p<.001

BHCV, 2008 HRB
N=22,148

Deployment trauma & child abuse

I hit my child(ren) for a reason other than discipline (spanking).



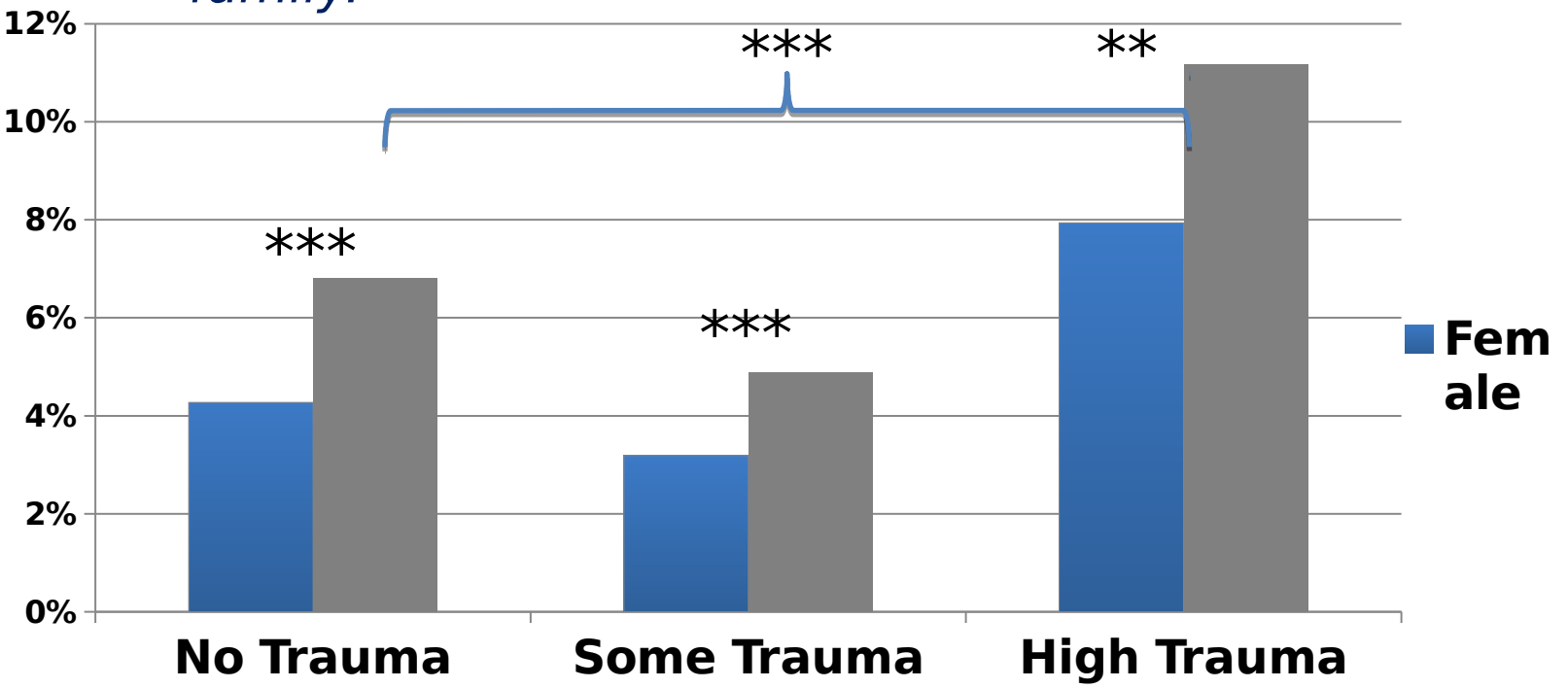
Controlled demographics: race***, rank***, service, education**, marital status.

*$p<.05$, **$p<.01$, ***$p<.001$

BHCV, 2008 HRB
N=22,266

Deployment trauma & general violence

I hit someone other than a member of my family.



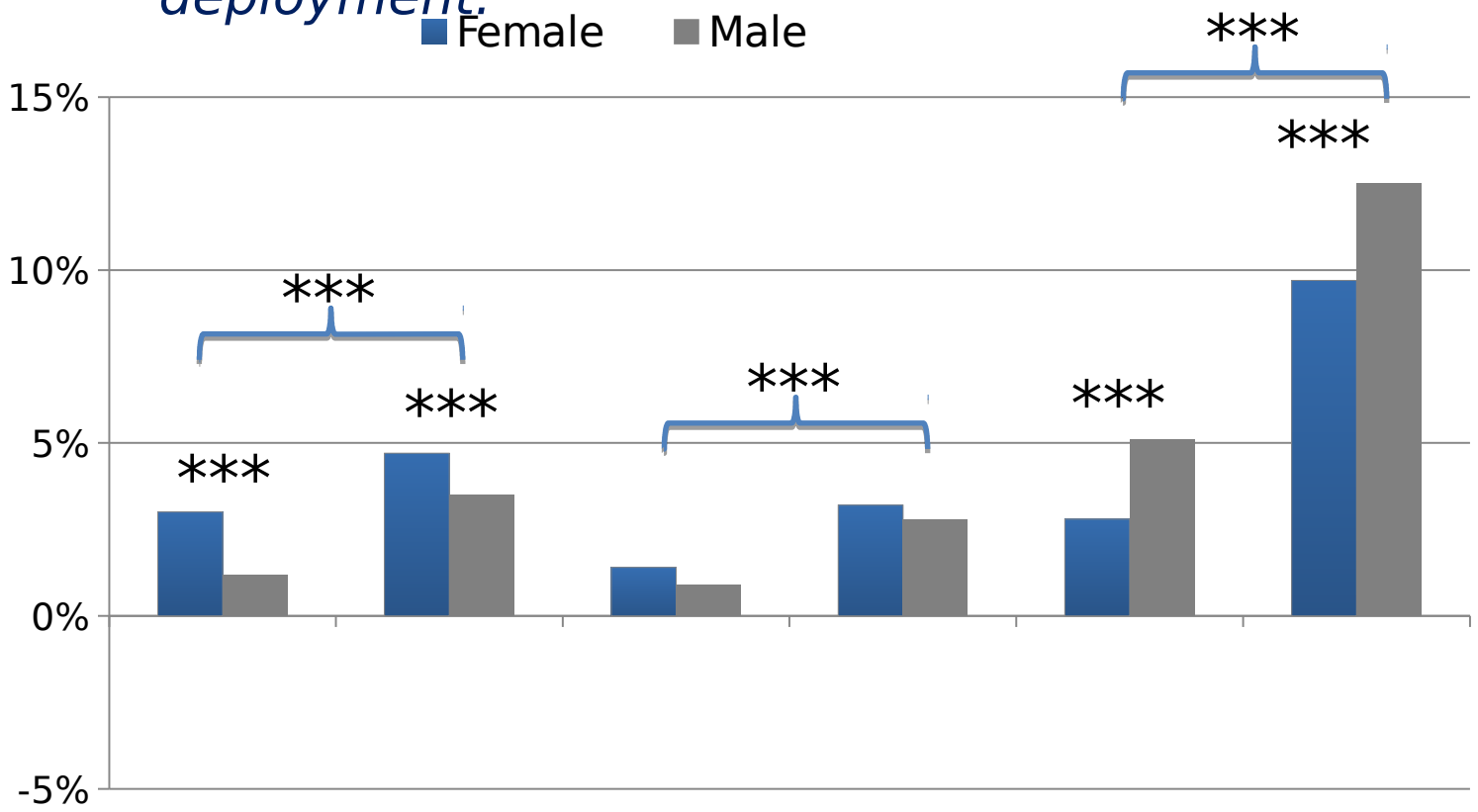
Controlled demographics: race***, rank***, branch**, education***, marital status***, dependents***.

*$p<.05$, **$p<.01$, ***$p<.001$

BHCV, 2008 HRB
N=22,130

Aggression by interaction with enemy POWs

Interacted with enemy prisoners of war during deployment.



Controlled demographics: marital status, dependents, pay grade, race, service, education, dual-military marriage. *$p<.05$, **$p<.01$, ***$p<.001$

BHCV, 2008 HRB
N's=7,747 -14,768

Gender, deployment, & aggressive behaviors: Conclusions

Gender differences:

- Women are more likely to report intimate partner violence.
- Men are more likely to report extra-familial aggression.

Deployment trauma:

- Associated with increases in all types of violence.
- May have greater effects on child abuse and intimate partner violence for women than men.

BHCV's Ongoing Work

Applications for use of additional data resources, including:

1. Defense Incident-Based Reporting System (DIBRS)
2. CDC programs, e.g., Behavioral Risk Factor Surveillance System (BRFSS)

Analysis of associations between military personnel actions, deployment history, medical inpatient and outpatient records.

BHCV's Ongoing Work, cont.

- Creation of veterans' mortality database.
- Examination of veterans mortality data using recently acquired CA and FL data.
- Preparation of reports expanding on selected BHQ results for possible publication.
- Pursuing possible collaborations

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Questions or comments?